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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,616

03/30/2005

Alain Beziat

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PEARNE & GORDON LLP
1801 EAST 9TH STREET
SUITE 1200
CLEVELAND, OH 44114-3108

EXAMINER

MASKELL, MICHAEL P

ART UNIT

PAPER NUMBER

2809

MAIL DATE

DELIVERY MODE

05/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/529,616

Applicant(s)

BEZIAT ET AL.

Examiner

Michael Maskell

Art Unit

2809

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-12 and 14 is/are rejected.
- 7) ☒ Claim(s) 6-8 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the phrase "said cover **capable** of being fixed on the main hollow body..." is indefinite in nature. Claimed subject matter must distinctly point out the invention; defining the invention in whole or in part by way of its capabilities leaves the claimed subject matter indistinct.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 5, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Janberg, et al. (U.S. Patent 4,508,969).

Regarding claims 1 and 9, Janberg, et al. disclose a container (Figure 1) for radioactive materials comprising a main hollow body (6 in Figure 3) as well as a cover (12 in Figure 5) made of at least a first metallic material, said cover capable of being

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fixed on the main hollow body by means of sealing means made of a second metallic material poured into a groove (30 and 38 in Figure 6) defined by the cover and the main hollow body of the container, characterised in that the cover and the main hollow body are made solid with said sealing means by means of a bonding zone, formed by chemical reaction between the first and second metallic materials. The disclosure of Janberg, et al. also infers the corresponding process of closing said container, as in claim 9.

Regarding claims 2, 4, and 5, Janberg, et al. further disclose the container in which each first metallic material is a material taken from the group made up of cast iron and steel (column 2, lines 20-31), and in which the second metallic material poured is cast iron or steel, respectively, with the bonding zone being composed of an iron-carbon alloy (column 3, lines 12-18). A chemical reaction forming a bonding zone composed of an iron-carbon alloy is an inevitable result of pouring molten cast iron or steel into a cast iron or steel body and allowing it to cool (for reference, see <http://www.msm.cam.ac.uk/phase-trans/2001/adi/cast.iron.html>).

Regarding claim 10, Janberg, et al. further disclose the process as claimed in claim 9, in which the stage of placing the cover is followed by a stage of pre-heating the first material constituting the groove (column 3, lines 63-68 and column 4, lines 1-5).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 8 (as dependent on claims 1, 2, 3, 4, or 5) rejected under 35

U.S.C. 103(a) as being unpatentable over Janberg, et al. and further in view of

Hiramatsu, et al. (JP 09262658).

Regarding claim 3, Janberg, et al. fails to disclose the second metallic material poured being a material taken from the group made up of zinc and its alloys

However, Hiramatsu, et al. teach the pouring of molten zinc alloy (51 in Figure 2) into a groove between a container and its cover for the purpose of sealing said container. Doing so would provide a superior means for joining two metallic members, which is precisely what Janberg, et al. and the present invention seek to accomplish. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Janberg, et al. with the teachings of Hiramatsu, et al. to create the container in which the second metallic material poured is a material taken from the group made up of zinc and its alloys.

Regarding claim 8 (as dependent on claims 1, 2, 3, 4, or 5), Janberg, et al. discloses the cover comprising an external lateral surface partially defining said groove and comprising two adjacent portions inclined respectively at an angle alpha and an angle beta relative to a direction parallel to a longitudinal principal axis of the container, the angles alpha and beta being acute and opposite so as to produce a corner effect (Figure 4).

6. Claims 11, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janberg, et al. in view of Hiramatsu as applied to claims 9 and 10 above, and further in view of Bienek, et al. (DE 3405735). Janberg, et al. as modified by Hiramatsu discloses all claimed limitations except for the limitations of claims 11, 12, and 14.

Regarding claim 11, it would have been very obvious to one of ordinary skill in the art that any surface (such as the groove) must be prepared by at a minimum cleaning the surface in question to remove dirt and impurities that would detract from the performance of the bond. This is done in standard practice to ensure the stability and strength of the bond by creating a known, predefined surface.

Regarding claim 12, it would have been very obvious to one of ordinary skill in the art that said cleaning would involve mechanical, chemical, or electrochemical techniques that are standard in the art for such purposes. Doing so would enable a predictable and stable surface via the most preferred means of cleaning.

Regarding claim 14, Janberg, et al. fails to teach a heating stage of the second material resting in the groove so as to favour chemical reaction between the first and second metallic materials.

However, Bienek, et al. describe the use of a metal and metal oxide powder which reacts with the material of the container and cover, instead of molten metal, to form the sealing means. This metallothermic reaction heats the material so as to facilitate the chemical reaction between the first and second metallic materials. Doing so would provide a sealing means for a radioactive waste container that does not

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require an external heating source. The benefit of energy savings and safety that avoiding the making and handling of molten metal provides would motivate the combination of the teachings.

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to further modify the teachings of Janberg, et al. with the teachings of Bienek, et al. to follow the pouring of the second metallic material into the groove with a heating stage of the second material resting in said groove, so as to favour chemical reaction between the first and second metallic materials. Doing so would provide a sealing means for a radioactive waste container that does not require an external heating source.

Allowable Subject Matter

7. Claims 6, 7, and 13 objected to as being dependent on rejected claims 1, 2, and 9, but would be allowable if rewritten in independent form to include all the limitations of the claims from which they depend.

8. Claim 8 (as dependent on claims 6 or 7) objected to as being dependent in the alternative on claims 6 or 7, which are objected to above, but would be allowable if rewritten in independent form to include all the limitations of claims 1-6 or 1-7.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents 5391887, 5787688, 4700863 and 4486512; and Japanese patent 09262658 are listed on form 892 as other pertinent prior art.

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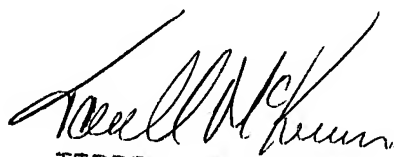
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Maskell whose telephone number is 571/274-3210. The examiner can normally be reached on Monday-Friday 8AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrell McKinnon can be reached on 571/272-4797. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael Maskell 04/27/2007



TERRELL L. MCKINNON
SUPERVISORY PATENT EXAMINER